it. La Societe Physico-Mathematique, of the Imperial University of Kasan, and other scientific bodies, recognized the standing of the *Analyst* by soliciting an exchange of their publications. Mathematical specialists in Edinburg, Paris, and other centers of learning showered upon the editor of the *Analyst* evidences of their regard. From the colleges and universities of the United States came letters indicating the highest appreciation of Dr. Hendricks' services to science. The *Analyst* was deemed worthy a place in the observatory of Greenwich, En gland, and the famous astronomer, Schiaparelli, of the Milan observatory, wrote to Dr. Hendricks at length on mathematical subjects.

These references serve to show that the *Analyst* was regarded as a real promoter of mathematical progress and of genuine service to mathematicians. The life of a man capable of achieving such success, from so obscure a beginning and under circumstances so unfavorable, cannot fail to be of interest to the readers of the MONTHLY.

After the discontinuance of the *Analyst*, Dr. Hendricks continued to manifest his interest in mathematical subjects by frequent contributions to other periodicals, and his writing always commanded wide respect.

Though gifted beyond the ordinary, Dr. Hendricks was modest to a fault, and thought little of self or self interest. His life was characterized by candor, modesty, and devotion to the truth.

Dr. Hendricks had been in failing health for some time, but was not considered dangerously ill, until a few hours before his death. He passed away surrounded by his family, which consists of Mrs. Hendricks and six daughters.

A DEFECTIVE PROOF IN SOLID GEOMETRY.

By C. W. M. BLACK, A. M., Professor of Mathematics in the Wilmington Conference Academy, Dover, Delaware.

On one occasion while engaged in an effort to render more evident to my class in Solid Geometry the text-book proof of a theorem which I had not before examined carefully, I became aware of its faulty character. Though the text-book* bears the date 1888, and is extensively used, the proof still remaines uncorrected and, so far as I have observed, unchallenged.

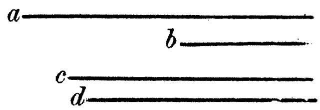
In proving "Two triangular pyramids having equivalent bases and equal altitudes are equivalent,"† we are told to divide the common altitude into a number of equal parts and pass planes through the points of division parallel to the bases, thus making the corresponding sections of the two pyramids equivalent. Then on the base and each section of one pyramid as lower bases, prisms are constructed with lateral edges equal and parallel to the division of

* Wentworth
† Book VII. Prop. XVI.

one edge of the pyramid, and on the sections of the other as upper bases prisms are constructed similarly.

"The sum of the first series of prisms is greater than $S-ABC$, and the sum of the second series is less than $S'-A'B'C'$; therefore, the difference between $S-ABC$ and $S'-A'B'C'$ is less than the difference between the sums of these two series of prisms."

The last conclusion quoted contains an unwarranted assumption, based on the supposition that if $a>b$ and $c>d$, the difference between a and d is greater than the difference between b and c which is not necessarily true. An illustration by means of lines also will show the fallacy. The error probably arose from overlooking the fact that so far as we know from the conditions assumed, there is no reason to suppose the second pyramid not greater than the first.



This proof, which closes by showing that the difference of the two series of prisms, being equal to the lowest prism of the first series, can be made less than any assignable volume by indefinitely increasing the number of prisms, and that the difference of the pyramids thus cannot be any assignable volume, replaces in an older edition a proof based on the theory of limits. Unless it was to relieve the monotony of proof by limits, it is not easy to see why the change was made.

I have also found the same proof in a recent geometry by another author.‡ In a third§ I find a similar idea, but used in a legitimate way. Here both sets of prisms are constructed on one pyramid and the limit of the sum of the inscribed series is thus shown to be the pyramid. Then by inscribing a series in each of the pyramids with equivalent bases and equal altitude, the method of limits is used to prove the pyramids equal. The other method may be considered an abbreviation of this, but its introduction of the objectionable feature ought to rule it out.

REMARK ON DIVISION OF CONCRETE NUMBER.

By C. H. JUDSON, LL. D., Professor of Mathematics, Furman University, Greenville, South Carolina.

Professor Ellwood's article, in the February Number of the MONTHLY, suggests the question—What is a *Concrete Number?*

Number answers to the question—How many? Quantity (quantus) answers to the question—How much?

Twenty gallons is a concrete *expression*, representing *quantity*. It is complex, and consists of one expression which represents—how many, and another which represents a concrete unit of *quantity*. It is, therefore, something more

‡ Stewart, Book IX., Prop. IX.

§ Byerly's Chauvenet, Book VII. Props. XV. and XVI.